

**AMENDMENTS TO THE DRAWINGS**

Please amend the figures as shown in the enclosed replacement sheets. The attached sheets of drawings include changes to Figures 6, 8, and 11. Specifically, Figures 6, 8, and 11 have been amended as follows.

Figure 6 has been amended to add previously omitted “Y” (yes) labels between operations 102 & 104 and 105 & 106, to correct a typographical error (replacing “DOCUMENTARY” with “ELEMENTARY” in operation 110), and to add an arrow clarifying that operation 114 is performed after adding the candidate entry to the result in operation 116. No new matter is added by way of these amendments, as support may be found on page 20, line 20 – page 22, line 19 of the specification as published.

Figure 7 has been amended to clarify that ENTRY E0 is the role parent entry referred to in the Specification. No new matter is added by way of this amendment, as support may be found on page 23, lines 20-24 of the specification as published.

Figure 8 has been amended to correct typographical errors in the attributes (82) column of the table. No new matter is added by way of these amendments, as support may be found on page 23, line 26 – page 26, line 12 of the specification as published.

Applicant submits that these replacement figures are formal.

**REMARKS**

Please reconsider this application in view of the above amendments and the following remarks. Applicant thanks the Examiner for carefully considering this application.

**Disposition of Claims**

Claims 1-29 were pending in the application. By way of this reply, claims 3, 15, and 24-29 are cancelled without prejudice or disclaimer. Claims 30-38 are new. Claims 1, 17, and 31 are independent. The remaining claims depend, directly or indirectly from claims 1, 17, and 31, respectively.

**Claim Amendments**

By way of this reply, claims 1-2, 4-14, and 16-23 are amended to clarify aspects of the invention and to correct typographical errors. Claims 30-38 are new. Applicant respectfully asserts that no new matter is added by way of these amendments, as support may be found, for example, on page 20, line 20 – page 22, line 19 and page 23, line 26 – page 26, line 12 of the specification as published.

**Election/Restrictions**

The Examiner requires restriction of the claims to one of the following groups (*see* Office Action dated March 22, 2006):

- I. Claims 1-23, drawn to data structure.
- II. Claims 24-29, drawn to filtering.

As discussed in a telephone interview with the Examiner, Applicant elects Group

- I. By way of this reply, claims 24-29 have been cancelled without prejudice or disclaimer.

**Drawings**

By way of this reply, Figure 6 is amended to add previously omitted “Y” (yes) labels between operations 102 & 104 and 105 & 106, to correct a typographical error (replacing “DOCUMENTARY” with “ELEMENTARY” in operation 110), and to add an arrow clarifying that operation 114 is performed after adding the candidate entry to the result in operation 116. No new matter is added by way of these amendments, as support may be found on page 20, line 20 – page 22, line 19 of the specification as published.

By way of this reply, Figure 7 is amended to clarify that ENTRY E0 is the role parent entry referred to in the Specification. No new matter is added by way of this amendment, as support may be found on page 23, lines 20-24 of the specification as published.

By way of this reply, Figure 8 is amended to correct typographical errors in the attributes (82) column of the table. No new matter is added by way of these amendments, as support may be found on page 23, line 26 – page 26, line 12 of the specification as published.

**Priority under 35 U.S.C. § 119**

Applicant respectfully acknowledges that submission of a certified copy of the priority document was unintentionally omitted for the present application. A certified copy of the priority document is also being filed today under separate cover.

**Rejections under 35 U.S.C. § 101**

Claims 1-23 stand rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter. By way of this reply, claims 3, 15, and 24-29 have been cancelled without prejudice or disclaimer. Accordingly, this rejection is now moot with respect to claims 3, 15, and 24-29. Further, in view of the above amendments, Applicant respectfully asserts that this rejection is now moot with respect to the amended claims. Specifically, by way of this reply, claims 1 and 17 have been amended to clarify that an entry is obtained that matches the second filter expression. Thus, amended claims 1 and 17 clearly produce a tangible result.

Moreover, Applicant respectfully submits that the Examiner's omnibus rejection of claims 2-16 and 18-23 under U.S.C. § 101, based solely on their depending from claims 1 and 17, is wholly improper. Specifically, the Examiner submits that claims 1 and 17 do not generate a tangible result, and that claims 2-16 and 18-23 are therefore also directed to non-statutory subject matter (*see* Office Action dated March 22, 2006, pages 4-5). However, whether or not claims 1 and 17 generate a tangible result, the mere fact that an independent claim does not generate a tangible result does not immediately imply that the dependent claims also do not generate a tangible result. In fact, by definition, dependent claims introduce new limitations not present in the independent claim, the new limitations potentially including the tangible result(s) that the Examiner finds lacking. Thus, the rejection of claims 2-16 and 18-23 under 35 U.S.C. § 101 is wholly improper, and withdrawal of this rejection is respectfully requested.

**Rejections under 35 U.S.C. § 112**

Claims 1-23 stand rejected under 35 U.S.C. § 112 as being indefinite. By way of this reply, claims 3, 15, and 24-29 have been cancelled without prejudice or disclaimer.

Accordingly, this rejection is now moot with respect to claims 3, 15, and 24-29. Further, by way of this reply, claims 1 and 17 have been amended and now lack the phrases that the Examiner rejects as indefinite. Specifically, amended claims 1 and 17 lack the phrases “capable of,” “associating a virtual attribute to an entry subject to a virtual attribute condition being verified,” “elsewhere,” and “for converting.” Further, claims 1 and 17 have been amended to clarify the use of the terms “attribute,” “real attribute,” and “virtual attribute.” Accordingly, withdrawal of this rejection is respectfully requested.

### **Rejections under 35 U.S.C. § 102**

Claims 1-23 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,347,312 (hereinafter “Byrne”). By way of this reply, claims 3, 15, and 24-29 have been cancelled without prejudice or disclaimer. Accordingly, this rejection is now moot with respect to claims 3, 15, and 24-29. To the extent that this rejection may apply to the amended claims, the rejection is respectfully traversed.

Amended independent claims 1, 17, and 31 relate to filtering entries organized in a tree structure of a directory server. Specifically, a first filter expression is received, which is based on a virtual attribute. The “virtual” attribute is so-called because it is computed from a value of a real attribute. The “real” attribute is so-called because its value is immediately associated with the attribute; therefore, the real attribute supports indexing. Said another way, to determine the value of a virtual attribute, the value of a real attribute must be obtained. For example, role conditions for entries in a directory server may be based on virtual attributes (*see, e.g.,* Specification, page 31, line 11 – page 32, line 23). However, to determine the value of a real attribute, obtaining a value of another attribute is not required. The first filter expression is converted into a second filter expression, where the second filter expression is based on the real

attribute. At least one entry in the tree structure is obtained that matches the second filter expression (*see, e.g.,* Specification, page 29, line 20 – page 30, line 27).

Turning to the rejection of the claims, “[a] claim is anticipated only if *each and every element* as set forth in the claim is found, either expressly or inherently described, in a single prior art reference [emphasis added].” Further, “[t]he identical invention must be shown in as complete detail as is contained in the ... claim” (*see* MPEP § 2131). Applicant respectfully asserts that Byrne does not expressly or inherently describe each and every element of amended independent claims 17, and 31.

Specifically, Byrne does not expressly or inherently describe the following limitations of amended independent claims 17 and 31:

1. *receiving a first filter expression, wherein the first filter expression is based on a virtual attribute, wherein a value of the virtual attribute is computed from a value of a real attribute*

Byrne is admittedly directed to searching (*i.e.,* filtering) entries organized in a tree structure of a directory server. Specifically, Byrne is directed to caching search results, to expedite repetitive searches (*see* Byrne, col. 2, lines 27-54). However, Byrne is completely silent with respect to virtual attributes and real attributes. In particular, Byrne is completely silent with respect to a value of *any* type of attribute being computed from a value of any other type of attribute. Applicant respectfully asserts that, without teaching virtual attributes and real attributes, the Examiner would be required to mischaracterize Byrne to describe each and every element of amended claims 17 and 31. Further, Byrne also does not expressly or inherently

describe receiving the first filter expression, since the first filter expression is based on a virtual attribute.

2. *converting the first filter expression into a second filter expression, wherein the second filter expression is based on the real attribute*

As discussed above, Byrne is completely silent with respect to virtual attributes, real attributes, and any sort of filter expression based on a virtual attribute. Accordingly, Byrne also does not expressly or inherently describe converting the first filter expression (*i.e.*, the filter expression based on the virtual attribute) into a second filter expression (*i.e.*, a filter expression based on the real attribute), as no first filter expression is available to be converted.

In view of the above remarks, Byrne clearly does not explicitly or inherently describe each and every limitation of amended independent claims 17 and 31. Thus, amended independent claims 17 and 31 are patentable over Byrne for at least the same reasons. As discussed above, amended independent claim 1 also relates to conversion of a first filter expression based on a virtual attribute into a second filter expression based on a real attribute. Accordingly, independent claim 1 is patentable over Byrne for at least the same reasons. Claims 2, 4-14, 16-23, 30, and 32-38 depend, directly or indirectly, from amended independent claims 1, 17, and 31, and are therefore patentable for at least the same reasons.

Moreover, Applicant respectfully submits that the Examiner's omnibus rejection of claims 2-16 and 18-23 under U.S.C. § 102, based solely on their depending from claims 1 and 17, is wholly improper. As discussed above, by definition, dependent claims introduce new limitations not present in the independent claim. Accordingly, even assuming *arguendo* that Byrne describes each and every limitation of independent claims 1 and 17, it does not follow that

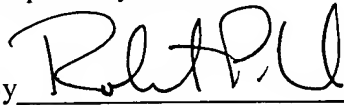
Byrne also describes each and every limitation of the dependent claims. However, the Examiner has given absolutely *no* indication of where, in Byrne, the limitations of claims 2-16 and 18-23 are expressly or inherently described. Thus, the rejection of claims 2-16 and 18-23 under 35 U.S.C. § 102 is wholly improper, and withdrawal of this rejection is respectfully requested.

### Conclusion

Applicant believes this reply is fully responsive to all outstanding issues and places this application in condition for allowance. If this belief is incorrect, or other issues arise, the Examiner is encouraged to contact the undersigned or his associates at the telephone number listed below. Please apply any charges not covered, or any credits, to Deposit Account 50-0591 (Reference Number 03226/501001).

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Respectfully submitted,

By 

Robert P. Lord  
Registration No.: 46,479  
OSHA · LIANG LLP  
1221 McKinney St., Suite 2800  
Houston, Texas 77010  
(713) 228-8600  
(713) 228-8778 (Fax)  
Attorney for Applicant

Attachments: Replacement figures (4 sheets)